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1	BRS	S1	9162	image\$1 adj rotat\$3
2	BRS	S2	522	S1 same scal\$3
3	BRS	S3	308	S2 and @py<"2002"
4	BRS	S4	31	S3 and skew
5	BRS	S5	7	("4472732"   "4835532"   "4835737"   "4839855"   "4853888"   "4860249"   "4878183").PN.
6	BRS	S6	13	("3432674"   "4437121"   "4463372"   "4468688"   "4472732"   "4611232"   "4618991"   "4637057"   "4712185"   "4759076"   "4835532"   "5050225").PN.
7	BRS	S7	4695	image\$1 adj scal\$3
8	BRS	S8	548	S7 same rotat\$3
9	BRS	S9	27	S8 and skew
10	BRS	S10	145	S8 and interpolat\$3
11	IS&R	S11	4	((("5867612") or ("5864347") or ("5850466") or ("4656664"))).PN.
12	BRS	S12	4	("3976982"   "4280143"   "4303948"   "4435703").PN.
13	BRS	S13	18	("4656664").URPN.
14	BRS	S14	4	("3976982"   "4280143"   "4303948"   "4435703").PN.
15	BRS	S15	4	("3976982"   "4280143"   "4303948"   "4435703").PN.
16	BRS	S16	6	("4556918"   "4790025"   "4975977"   "4985779"   "5166809"   "5204916").PN.
17	BRS	S17	5874	image\$1 adj transform\$5
18	BRS	S18	530	S17 same scal\$3
19	BRS	S19	133	S18 same rotat\$3
20	BRS	S20	57	S19 and interpolat\$3
21	BRS	S21	9162	image\$1 adj rotat\$3
22	BRS	S22	522	S21 same scal\$3
23	BRS	S23	138	S22 and interpolat\$3
24	BRS	S24	114	S21 same skew
25	BRS	S25	14	S24 same scal\$3
26	BRS	S26	67	S22 and (cos or sin)
27	BRS	S27	1653	S21 same (compress\$3 or reduc\$4 or scal\$3)
28	BRS	S28	177	S27 and (cos or sin)
29	IS&R	S29	1	("5295237").PN.
30	BRS	S31	9173	image\$1 adj rotat\$3
31	BRS	S32	100	S31 same interpolation
32	BRS	S33	114	S31 same skew
33	BRS	S34	9173	image\$1 adj rotat\$3

	Type	Ref #	Hits	Search Text
34	BRS	S35	3	S34 same (clock adj wise)
35	BRS	S36	9173	image\$1 adj rotat\$3
36	BRS	S37	15	S36 same warping
37	BRS	S38	445	382/296.ccls.
38	BRS	S39	692	382/298.ccls.
39	BRS	S40	229	S39 and rotat\$3
40	BRS	S41	63	S38 and S39
41	BRS	S42	445	382/296.ccls.
42	BRS	S43	153	S42 and scal\$3
43	BRS	S44	692	382/298.ccls.
44	BRS	S45	229	S44 and rotat\$3
45	BRS	S46	8	("4829586"   "5038218"   "5068904"   "5068905"   "5075784"   "5220431"   "5293432"   "5327256").PN.
46	BRS	S51	330	382/296.ccls.
47	BRS	S52	445	382/296.ccls.
48	BRS	S53	73	S52 and enhanc\$5
49	BRS	S54	13	S52 and (image\$1 adj enhanc\$5)
50	BRS	S55	11	S52 and (dynamic adj range)
51	BRS	S56	692	382/298.ccls.
52	BRS	S57	303	382/289.ccls.
53	BRS	S58	509	382/299.ccls.
54	BRS	S59	1	S58 and S57
55	BRS	S60	9	S58 and S52
56	IS&R	S61	1	("4618991").PN.

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### 1 A novel image rotating algorithm tailored for embedded AFIS

*Wang Zuo-dong; Wei Shao-jun;*

ASIC, 2003. Proceedings. 5th International Conference on , Volume: 2 , 21-24 2003

Pages:1325 - 1328 Vol.2

[\[Abstract\]](#)   [\[PDF Full-Text \(270 KB\)\]](#)   **IEEE CNF**

### 2 Nonmechanical image rotation with an acousto-optic dove prism

*Eung Gi Paek; Choe, J.Y.; Oh, T.K.; Hong, J.H.; Chang, T.Y.;*

Lasers and Electro-Optics, 1998. CLEO 98. Technical Digest. Summaries of papers presented at the Conference on , 3-8 May 1998

Pages:480

[\[Abstract\]](#)   [\[PDF Full-Text \(220 KB\)\]](#)   **IEEE CNF**

### 3 Motion from three weak perspective images using image rotation

*Ostuni, J.; Dunn, S.;*

Pattern Analysis and Machine Intelligence, IEEE Transactions on , Volume: 18 , Issue: 1 , Jan. 1996

Pages:64 - 69

[\[Abstract\]](#)   [\[PDF Full-Text \(540 KB\)\]](#)   **IEEE JNL**

### 4 High quality alias free image rotation

*Owen, C.B.; Makedon, F.;*

Signals, Systems and Computers, 1996. 1996 Conference Record of the Thirty-Seventh Asilomar Conference on , Volume: 1 , 3-6 Nov. 1996

Pages:115 - 119 vol.1

[\[Abstract\]](#) [\[PDF Full-Text \(476 KB\)\]](#) IEEE CNF

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**5 Single-frequency, TEM<sub>00</sub>-mode Nd:YLF laser with image-rotation resonator**

*Isyanova, Y.; Flint, J.; Moulton, P.F.;*

Lasers and Electro-Optics, 2000. (CLEO 2000). Conference on , 7-12 May 2000  
Pages:436 - 437

[\[Abstract\]](#) [\[PDF Full-Text \(224 KB\)\]](#) IEEE CNF

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**6 Design and performance of an image-rotating, nanosecond optical parametric oscillator**

*Smith, A.V.; Armstrong, D.J.;*

Lasers and Electro-Optics Society, 2002. LEOS 2002. The 15th Annual Meeting of the IEEE , Volume: 1 , 10-14 Nov. 2002  
Pages:149 - 150 vol.1

[\[Abstract\]](#) [\[PDF Full-Text \(226 KB\)\]](#) IEEE CNF

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**7 Experimental non-mechanical image rotation**

*Yong-Seok Im; Eung Gi Paek; Choe, J.Y.; Oh, T.K.;*

Lasers and Electro-Optics Society 1999 12th Annual Meeting. LEOS '99. IEEE , Volume: 1 , 8-11 Nov. 1999  
Pages:257 - 258 vol.1

[\[Abstract\]](#) [\[PDF Full-Text \(132 KB\)\]](#) IEEE CNF

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**8 Real-time image rotation on FPGA's board**

*Berthaud, C.; Bourennane, E.; Paindavoine, M.; Milan, C.;*

Signal Processing Proceedings, 1998. ICSP '98. 1998 Fourth International Conference on , 12-16 Oct. 1998  
Pages:537 - 540 vol.1

[\[Abstract\]](#) [\[PDF Full-Text \(244 KB\)\]](#) IEEE CNF

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**9 Implementation of a real time image rotation using B-spline interpolation on FPGA's board**

*Berthaud, C.; Bourennane, E.; Paindavoine, M.; Milan, C.;*

Image Processing, 1998. ICIP 98. Proceedings. 1998 International Conference on , 4-7 Oct. 1998  
Pages:995 - 999 vol.3

[\[Abstract\]](#) [\[PDF Full-Text \(464 KB\)\]](#) IEEE CNF

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**10 Hardware for image rotation by twice skew transformations**

*Tsuchida, N.; Yamada, Y.; Ueda, M.;*

Acoustics, Speech, and Signal Processing [see also IEEE Transactions on Signal Processing], IEEE Transactions on , Volume: 35 , Issue: 4 , Apr 1987  
Pages:527 - 532

[\[Abstract\]](#) [\[PDF Full-Text \(640 KB\)\]](#) IEEE JNL

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**11 Two- and three-dimensional image rotation using the FFT**

*Cox, R.W.; Raoqiong Tong;*

Image Processing, IEEE Transactions on , Volume: 8 , Issue: 9 , Sept. 1999  
Pages:1297 - 1299

[\[Abstract\]](#) [\[PDF Full-Text \(160 KB\)\]](#) [IEEE JNL](#)

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**12 Avoidance of additional aliasing in multipass image rotations**

*Fraser, D.; Schowengerdt, R.A.;*

Image Processing, IEEE Transactions on , Volume: 3 , Issue: 6 , Nov. 1994  
Pages:721 - 735

[\[Abstract\]](#) [\[PDF Full-Text \(1364 KB\)\]](#) [IEEE JNL](#)

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**13 High-speed high-accuracy 3D rotation of volume images**

*Chen Xuede; Lu Siwei;*

Systems, Man, and Cybernetics, 1997. 'Computational Cybernetics and Simulation', 1997 IEEE International Conference on , Volume: 1 , 12-15 Oct.

Pages:505 - 510 vol.1

[\[Abstract\]](#) [\[PDF Full-Text \(736 KB\)\]](#) [IEEE CNF](#)

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**14 VLSI implementation of real-time image rotation**

*Bhandakar, S.M.; Huaiyuan Yu;*

Image Processing, 1996. Proceedings., International Conference on , Volume: 1 , 16-19 Sept. 1996  
Pages:1015 - 1018 vol.2

[\[Abstract\]](#) [\[PDF Full-Text \(580 KB\)\]](#) [IEEE CNF](#)

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**15 Binary image rotation using cellular neural networks**

*Gao, Q.; Messmer, P.; Moschytz, G.S.;*

Circuits and Systems, 2002. ISCAS 2002. IEEE International Symposium on , Volume: 3 , 26-29 May 2002  
Pages:III-113 - III-116 vol.3

[\[Abstract\]](#) [\[PDF Full-Text \(447 KB\)\]](#) [IEEE CNF](#)

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Relevance scale ☐ ☐ ☐ ☐ ☐**1** [Rotating a graphics image with APL](#)

Charles W. Hart

March 1994 **ACM SIGAPL APL Quote Quad**, Volume 24 Issue 3Full text available: pdf(381.37 KB) Additional Information: [full citation](#), [abstract](#), [index terms](#)

Graphic transformation is neatly accomplished by using matrices, and hence APL is an excellent language with which to write graphics routines. This paper is a brief tutorial and gives a sample rotation routine. The mathematical foundation and APL2 implementation are given.

**2** [Continuous anti-aliased rotation and zoom of raster images](#)

Carl F. R. Weiman

July 1980 **ACM SIGGRAPH Computer Graphics , Proceedings of the 7th annual conference on Computer graphics and interactive techniques**, Volume 14 Issue 3Full text available: pdf(739.08 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Raster graphics images are difficult to smoothly rotate and zoom because of geometric digitization error. A new algorithm is presented for continuous rotation and zoom, free from the disturbing aliasing artifacts introduced by traditional methods. Applications include smooth animation. No matrix multiplication of pixel coordinates is executed. Instead row and column parallel operations which resemble local digital filters are used. This suggests real time implementation with simple hardware ...

**Keywords:** Aliasing, Image processing, Large scale integration, Linear interpolation, Parallel computation, Raster graphics, Real-time graphics, Rothstein code

**3** [A robust framework for content-based retrieval by spatial similarity in image databases](#)

Essam A. El-Kwae, Mansur R. Kabuka

April 1999 **ACM Transactions on Information Systems (TOIS)**, Volume 17 Issue 2Full text available: pdf(274.25 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

A framework for retrieving images by spatial similarity (FRISS) in image databases is presented. In this framework, a robust retrieval by spatial similarity (RSS) algorithm is defined as one that incorporates both directional and topological spatial constraints, retrieves similar images, and recognized images even after they undergo translation,


scaling, rotation (both perfect and multiple), or any arbitrary combination of transformations. The FRISS framework is discussed and used as a ba ...

**Keywords:** content-based retrieval, image databases, multimedia databases, query formulation, retrieval models, similarity retrieval, spatial similarity

4 Design and evaluation of algorithms for image retrieval by spatial similarity

Venkat N. Gudivada, Vijay V. Raghavan

April 1995 **ACM Transactions on Information Systems (TOIS)**, Volume 13 Issue 2

Full text available:  pdf(1.89 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)


Similarity-based retrieval of images is an important task in many image database applications. A major class of users' requests requires retrieving those images in the database that are spatially similar to the query image. We propose an algorithm for computing the spatial similarity between two symbolic images. A symbolic image is a logical representation of the original image where the image objects are uniquely labeled with symbolic names. Spatial relationships in a symbolic image are re ...

**Keywords:** image databases, image retrieval, image retrieval systems, rotational invariance, spatial similarity

5 A survey of image registration techniques

Lisa Gottesfeld Brown

December 1992 **ACM Computing Surveys (CSUR)**, Volume 24 Issue 4

Full text available:  pdf(5.20 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Registration is a fundamental task in image processing used to match two or more pictures taken, for example, at different times, from different sensors, or from different viewpoints. Virtually all large systems which evaluate images require the registration of images, or a closely related operation, as an intermediate step. Specific examples of systems where image registration is a significant component include matching a target with a real-time image of a scene for target recognition, mon ...

**Keywords:** image registration, image warping, rectification, template matching

6 QuickTime VR: an image-based approach to virtual environment navigation

Shenchang Eric Chen

September 1995 **Proceedings of the 22nd annual conference on Computer graphics and interactive techniques**

Full text available:  pdf(347.59 KB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**Keywords:** environment maps, image registration, image warping, panoramic images, real-time display, view interpolation, virtual reality

7 Separable image warping with spatial lookup tables

G. Wolberg, T. E. Boult

July 1989 **ACM SIGGRAPH Computer Graphics , Proceedings of the 16th annual conference on Computer graphics and interactive techniques**, Volume 23 Issue 3


Full text available:  pdf(1.99 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Image warping refers to the 2-D resampling of a source image onto a target image. In the general case, this requires costly 2-D filtering operations. Simplifications are possible when the warp can be expressed as a cascade of orthogonal 1-D transformations. In these cases, separable transformations have been introduced to realize large performance gains. The central ideas in this area were formulated in the 2-pass algorithm by Catmull and Smith. Although that method applies over an important cla ...

8 Inner-block operations on compressed images

Bo Shen, Ishwar K. Sethi

January 1995 **Proceedings of the third ACM international conference on Multimedia**

Full text available:  html(33.22 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**Keywords:** DCT domain, geometric transform, image manipulation

9 Augmented reality and mobile systems I: Tracking with reference images: a real-time and markerless tracking solution for out-door augmented reality applications

Didier Stricker

November 2001 **Proceedings of the 2001 conference on Virtual reality, archeology, and cultural heritage**

Full text available:  pdf(7.12 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

This paper presents the optical tracking solution developed in the ArcheoGuide project (The Augmented Reality based Cultural Heritage On-site GUIDE, IST-1999-11306). The system enables to recover precisely the user head position and orientation at predetermined viewing location without the support of markers. The tracking approach is novel and bases on the real-time registration of the live video-image with so called "reference images" of the site. Once the matching between a live- and a referenc ...

**Keywords:** cultural heritage, markerless optical tracking, mobile augmented reality

10 Three-dimensional medical imaging: algorithms and computer systems

M. R. Stytz, G. Frieder, O. Frieder

December 1991 **ACM Computing Surveys (CSUR)**, Volume 23 Issue 4

Full text available:  pdf(7.38 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#), [review](#)

**Keywords:** Computer graphics, medical imaging, surface rendering, three-dimensional imaging, volume rendering

11 Improved video mosaic construction by selecting a suitable subset of video images

J. S. Jimmy Li, Sharmil Randhawa

January 2004 **Proceedings of the 27th conference on Australasian computer science - Volume 26**

Full text available:  pdf(577.61 KB) Additional Information: [full citation](#), [abstract](#), [references](#)

By stitching together adjacent images from a video sequence surveying a scene, a video mosaic of the entire panorama can be formed. Since a video survey consists of a sequence of images having small relative displacements with respect to each other, there is



redundant overlapping information in consecutive images so that not all consecutive video images are required to create a mosaic, and only a subset of suitable images needs to be chosen. Images that are misaligned due to subpixel translation ...

**Keywords:** misalignment, registration, rotation, shear, translation, video mosaic

12 Indexing image databases using wavelet and discrete Fourier transform

Chaman L. Sabharwal, S. R. Subramanya

March 2001 **Proceedings of the 2001 ACM symposium on Applied computing**


Full text available:  pdf(773.41 KB) Additional Information: [full citation](#), [references](#), [index terms](#)

**Keywords:** compression, discrete fourier transform, image databases, indexing algorithm, wavelet transform

13 A bitmap scaling and rotation design for SH1 low power CPU

Ying-Wen Bai, Ching-Ho Lai

August 1999 **Proceedings of the 2nd ACM international workshop on Modeling, analysis and simulation of wireless and mobile systems**

Full text available:  pdf(662.12 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

14 Creating full view panoramic image mosaics and environment maps

Richard Szeliski, Heung-Yeung Shum

August 1997 **Proceedings of the 24th annual conference on Computer graphics and interactive techniques**



Full text available:  pdf(2.07 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**Keywords:** environment mapping, full-view panoramic image mosaics, image-based rendering, virtual environments

15 Spreadsheets for images

Marc Levoy

July 1994 **Proceedings of the 21st annual conference on Computer graphics and interactive techniques**

Full text available:  pdf(69.71 KB)  ps(106.96 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We describe a data visualization system based on spreadsheets. Cells in our spreadsheet contain graphical objects such as images, volumes, or movies. Cells may also contain widgets such as buttons, sliders, or curve editors. Objects are displayed in miniature inside each cell. Formulas for cells are written in a general-purpose programming language (Tcl) augmented with operators for array manipulation, image processing, and rendering. Compared to flow chart visualization systems, ...

**Keywords:** data visualization, flow charts, spreadsheets, user interfaces, visual programming languages

**VisualSEEk: a fully automated content-based image query system**


John R. Smith, Shih-Fu Chang

February 1997 **Proceedings of the fourth ACM international conference on Multimedia**Full text available:  pdf(1.58 MB)Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**Keywords:** content-based retrieval, image databases, image indexing, similarity retrieval, spatial query

**17 Rotated dispersed dither: a new technique for digital halftoning**

Victor Ostromoukhov, Roger D. Hersch, Isaac Amidror

July 1994 **Proceedings of the 21st annual conference on Computer graphics and interactive techniques**Full text available:  pdf(691.60 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#) ps(1.62 MB)

Rotated dispersed-dot dither is proposed as a new dither technique for digital halftoning. It is based on the discrete one-to-one rotation of a Bayer dispersed-dot dither array. Discrete rotation has the effect of rotating and splitting a significant part of the frequency impulses present in Bayer's halftone arrays into many low-amplitude distributed impulses. The halftone patterns produced by the rotated dither method therefore incorporate fewer disturbing artifacts than the horizontal and ...

**18 Image retrieval: Retrieving 3D shapes based on their appearance**

Ryutarou Ohbuchi, Masatoshi Nakazawa, Tsuyoshi Takei

November 2003 **Proceedings of the 5th ACM SIGMM international workshop on Multimedia information retrieval**Full text available:  pdf(559.66 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

In this paper, we propose an algorithm for shape-similarity comparison and retrieval of 3D shapes defined as polygon soup. One of the issues in comparing 3D shapes is the diversity of shape representations used to represent these "3D" shapes. While a solid model is well-defined and is easier to handle, others such as polygon soup poses many problems. In fact, a polygon soup 3D model most often does not define a 3D shape, but merely an illusion of "3D shape-ness" by its collection of independent ...

**Keywords:** depth map, geometric modeling, polygon soup, polygonal mesh, shape similarity search, three-dimensional models

**19 Evaluation of an algorithm for finding a match of a distorted texture pattern in a large image database**

N. Vujovic, D. Brzakovic

January 1998 **ACM Transactions on Information Systems (TOIS)**, Volume 16 Issue 1Full text available:  pdf(499.06 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Evaluation of an algorithm for finding a match for a random texture pattern in a large image database is presented. The algorithm was designed assuming that the random pattern may be subject to misregistration relative to its representation in the database and assuming that it may have missing parts. The potential applications involve authentication of legal documents, bank notes, or credit cards, where thin fibers are embedded randomly into the document medium during medium fabrication. Th ...


**Keywords:** image database, image matching, misregistration, presentation of information,

random pattern

## 20 Color gamut mapping and the printing of digital color images

Maureen C. Stone, William B. Cowan, John C. Beatty

October 1988 **ACM Transactions on Graphics (TOG)**, Volume 7 Issue 4

Full text available:  pdf(6.06 MB)





Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Principles and techniques useful for calibrated color reproduction are defined. These results are derived from a project to take digital images designed on a variety of different color monitors and accurately reproduce them in a journal using digital offset printing. Most of the images printed were reproduced without access to the image as viewed in its original form; the color specification was derived entirely from calorimetric specification. The techniques described here are not specific ...

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